

### ADDENDUM No. 3

#### Montello Street at Route 58 Re-alignment Project Carver, Massachusetts

August 12, 2021

The following Addendum No.3 is hereby issued to the Bid Documents entitled, “Montello Street at Route 58 Re-alignment,” dated July 21, 2021.

All prospective bidders shall be aware of all clarifications and revisions as follows and should note such within the bidding documents at the time of bidding.

The following questions or clarifications have been posed by a prospective bidder. Responses are provided below each question:

*Q: Item #995.01- Precast Concrete Arch Culvert*

*At pre-bid meeting, a 4' x 8' precast box culvert was stated as intent of design with the utilities under the culvert. This is not what the project plans are showing. Plans show concrete footings, parapet/abutment walls, wingwalls and footings. The specifications state that all of the culvert work is “precast” (footings, wall, headwalls, wingwalls, and all footings). We need clarification ASAP as to what the intent of culvert design is. Is any of the concrete work cast in place? Specs state design by GC for this work. Need to know what is required? Is a 4'x8' precast box culvert acceptable with the utilities under the culvert in sleeves? Is an open bottom 4' x 8' culvert acceptable with the utilities under the culvert in sleeves, and if so, what is the surface treatment for the stream bottom inside the culvert? Where is damp-proofing and membrane waterproofing required. Please provide clarification ASAP.*

A: Please see sheets 37 through 40 in the plans for culvert drawings and details. The proposed culvert shall be made of precast concrete. The culvert width shall be a minimum of 8' and the opening from the top of the natural stream bed to the inside top of the culvert shall be a minimum of 3' as shown on the plans. An open-bottom box culvert is acceptable – the top of the culvert does not need to be arched as long as the minimum opening dimensions of 3' by 8' are met or exceeded (hydraulic opening size cannot be smaller than shown). The utility sleeves shall be slotted through the culvert walls as shown on the plans. Bottom of precast footings shall be 4'-0" below finished grade, as shown on sheet 38 to 39 of the plans. Damp-proofing is required along the vertical face of the pedestal walls to the top of footing and horizontally 2'-0" along the top of footing. Membrane waterproofing is not required. **Bidders shall replace Plan sheet 39 with the revised Plan sheet 39, attached. Bidders shall also replace sheet 138 of the Special Provisions with the revised sheet 138, attached.** See Addendum No. 2 for additional information on the culvert.

Q: Item #757.1 and #757.2 – Subsurface gravel Wetlands #1 and #2

- a. 6" subdrain piping is shown on the plans for both areas. Should there be separate pay items for the 6" perforated subdrain and the solid 6" piping. Also, the details for this subdrain piping need clarification. Some risers are shown as solid, some as perforated. Please clarify requirements.
- b. The outlet control Structures at these wetlands require a detail for construction. Also, are they getting paid under the Catch Basin Item, or should a separate pay item be established for these structures.

A: All 6" pipes, both perforated and solid, within the subsurface gravel wetlands are included in the lump sum price for the subsurface gravel wetlands. The outlet control structures are standard shallow cover catch basins and will be paid for under Item 201. Catch Basin.

Q: Item #201- Catch Basins. Quantity of 9 each shown in bid. Can find 4 CB's, or 6 if the OC Structures are included here for payment. Where are the additional structures on the project?

A: The quantity of catch basins was determined based on a standard depth of 6.5' (per standard MassDOT estimating). There are four catch basins proposed in the roadway and two catch basins proposed as outlet control structures for the subsurface gravel wetlands. The additional quantity in the bid tabs represents a depth greater than 6.5' for some of the catch basins.

Q: Based upon the geo-tech report, Boring B-2, there is a 4' thick layer of organic silt sand starting at approximately 6' below finished grade. Does this material require removal in the culvert area footings? How is this excavation paid? How is replacement fill paid? Both should be included in separate pay items within the bid documents per MASS DOT specs.

A: This material shall be removed where necessary to install the culvert footings. The excavation will be paid under Item 140. Bridge Excavation and the backfill will be paid under Item 151.2 Gravel Borrow for Backfilling Structures and Pipes.

Q: Please note potential material delivery problems due to current economic status.

- a. Ductile iron pipe for water mains, delivery status several weeks to months from order.
- b. Mast Arms not available for 9 months after approved drawing approvals and orders.

Please advise how these issues will be handled by the Town and the Funding grant for the work. Will extension beyond 6/15/22 substantial completion date be able to be obtained by Town?

A: At this time, the project completion date will still be listed as 6/15/2022.

*Q: What additional time extensions will be given if Alternate #1 or Alternate #2 are accepted by the Town?*

A: There are currently no time extensions anticipated for the selection of any of the add alternates.

*Q: How is the power/service connection being supplied for the traffic signal work? Is an overhead line being supplied per one of the plans, or is underground feed from utility pole available?*

A: Please see Item 815.1 in the Special Provisions. Power connection to the traffic signal controller shall be through underground conduit.

*Q: Montello Road closure and traffic detours. What are the times that this will be allowed?*

A: Specific lane closures and detours must be approved by the Town of Carver prior to commencing work. See Temporary Traffic Control Plans for proposed setups.

*Q: Will the GC and the gas company work be done simultaneously on this project, or will the gas company require full access, with no one else here, for their work?*

A: It is anticipated that the general contractor and the gas company will complete their work in conjunction with one another. The contractor is expected to coordinate with the gas company as needed, and certainly multiple contractors can work within the same work zone as long as coordination occurs.

*Q: Please clarify intent and the work limits for the "Invasive species" work listed in the Subsurface Gravel Wetland Areas. MASS DOT specifications usually carry this work as two separate pay items – 1) the establishment of an invasive species management plan, and 2) an hourly rate for treatment of invasive species. Need some additional quantification of this work to supply appropriate pricing for same.*

A: This work is paid for under the lump sum gravel wetland item. Invasive species removal shall be completed in all areas of proposed subsurface gravel wetland up to the limit of work and/or the limit of erosion control barrier as shown on the plans.

*Q: Insurance Requirements--- Workers Comp limits listed as \$10 Million, please clarify. Is builders risk insurance required for this horizontal construction project?*

A: The insurance requirements are listed on pages 61 – 62 of the Bid Documents under Supplemental Conditions.

Q: *There are two classes of 12" RCP shown on the plans, class III and class V. MA DOT Specifications usually carry these as separate pay items. Please review and advise.*

A: As noted on the plans, Class V RCP is required in shallow installations. Item 241.12 – 12 Inch Reinforced Concrete Pipe has been replaced by Item 244.12 – 12 Inch Reinforced Concrete Pipe Class V in the bid tabs. **Bidders shall replace ‘Supplemental Form for General Bid – Base Bid’ sheets 22 through 37 with the revised sheets 22 through 37-A, attached.**

Q: *Special Provisions has an Item #772.335 – Balsam Fir, listed. There is no item in the bid form. Please clarify and advise status.*

A: The trees were omitted from the bid tabs in error. There are six proposed trees in the project – three Balsam Fir and three Eastern Red Cedar. Item 772.325 and Item 772.336 have been added to the bid tabs. **Bidders shall replace ‘Supplemental Form for General Bid – Base Bid’ sheets 22 through 37 with revised sheets 22 through 37-A, attached. Bidders shall also replace sheet 113 of the Special Provisions with the revised sheet 113, attached.**

Q: *Drawing Sheet 37, General Notes, Demolition and construction, states “contaminated waste shall be disposed off-site at approved facilities”.*

- a. *Are any contaminated soils anticipated, and if so what type? Please Quantify.*
- b. *If encountered, how will contaminated soils be paid?*

A: This is a general construction note. There are no known contaminated soils in the project area and, as such, they have not been factored into the bid documents. Please see the geotechnical report prepared by Sanborn Head attached to the bid documents.

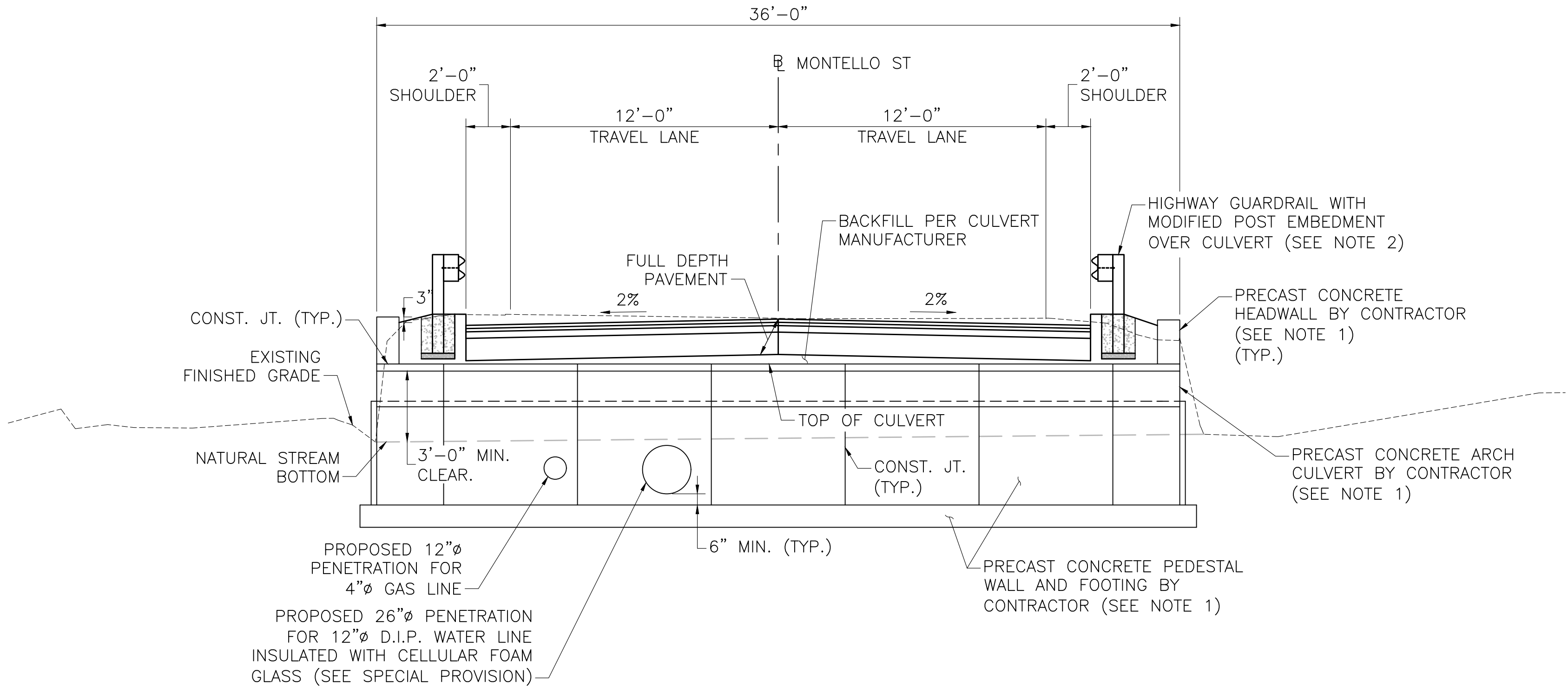
Q: *Special Provisions, Item #991.01, Control of Water, states “contractor shall confirm the flow rate of the stream”.*

- a. *As a basis of design, need a stream flow rate (CFS) for project bidding purposes, as well as hydrological study of the area.*

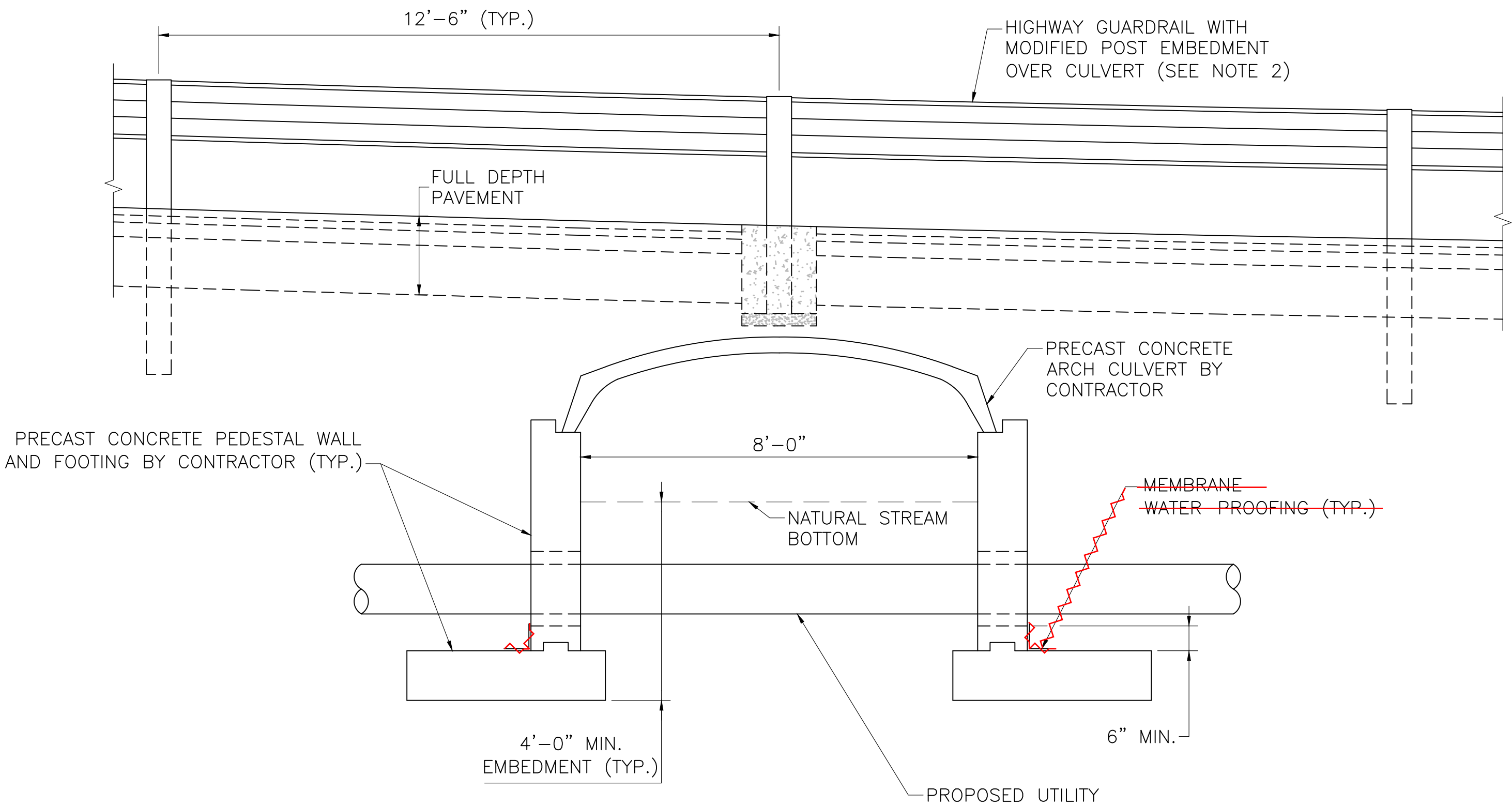
A: This sentence has been removed from sheet 135 of the Special Provisions under Item 991.01. **Bidders shall replace sheet 135 of the Special Provisions with the revised sheet 135, attached.**

# Replacement Sheets

Bidders shall replace existing sheets from the Plans and Bid Documents with the replacement sheets attached as described in Addendum No. 3.



**LONGITUDINAL SECTION**  
SCALE:  $\frac{1}{4}" = 1'-0"$



**TRANSVERSE SECTION**  
SCALE:  $\frac{1}{2}" = 1'-0"$

**NOTES:**

1. PRECAST CONCRETE ARCH CULVERT, PEDESTAL WALLS, AND FOOTINGS TO BE DESIGNED BY CONTRACTOR. ELEVATIONS MAY VARY DEPENDING ON CONTRACTOR DESIGN.
2. GUARDRAIL POST SHALL BE MODIFIED IN ACCORDANCE WITH MASSDOT DRAWING NO. 400.5.1 "ENCASED POST FOR SHALLOW MOUNT," DATED OCTOBER 2017.
3. THE FACTORED BEARING PRESSURE SHALL BE DETERMINED BY THE CONTRACTOR PER AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS.

THE FACTORED BEARING RESISTANCE SHALL BE CALCULATED AS A FUNCTION OF THE WIDTH OF THE FOOTING AS DESCRIBED IN THE GEOTECHNICAL MEMORANDUM DATED FEBRUARY 12, 2021 BY SANBORN, HEAD & ASSOCIATES, INC. FACTORED BEARING RESISTANCE IS THE PRODUCT OF THE NOMINAL BEARING RESISTANCE AND A RESISTANCE FACTOR OF 0.45.

# Supplemental Form for General Bid - Base Bid



## Supplemental Form for General Bid Base Bid

Project: Montello at Main Street Intersection Reconfiguration

Location: Carver, Massachusetts

Item Number	Quantity	Item with Unit Bid Price Written in Words	Unit Price		Amount	
			Dollars	Cents	Dollars	Cents
101.	2	CLEARING AND GRUBBING at _____ A				
102.1	1,250	TREE TRIMMING at _____ FT				
102.511	10	TREE PROTECTION - ARMORING & PRUNING at _____ EA				
102.521	650	TREE AND PLANT PROTECTION FENCE at _____ FT				
115.1	1	DEMOLITION OF CULVERT at _____ LS				

## Supplemental Form for General Bid - Base Bid

Item Number	Quantity	Item with Unit Bid Price Written in Words	Unit Price		Amount	
			Dollars	Cents	Dollars	Cents
120.1	2,600	UNCLASSIFIED EXCAVATION at _____ CY				
140.	460	BRIDGE EXCAVATION at _____ CY				
141.1	50	TEST PIT FOR EXPLORATION at _____ CY				
142.	10	CLASS B TRENCH EXCAVATION at _____ CY				
144.	100	CLASS B ROCK EXCAVATION at _____ CY				
146.	2	DRAINAGE STRUCTURE REMOVED at _____ EA				
150.	90	ORDINARY BORROW at _____ CY				



## Supplemental Form for General Bid - Base Bid

Item Number	Quantity	Item with Unit Bid Price Written in Words	Unit Price		Amount	
			Dollars	Cents	Dollars	Cents
151.	1,700	GRAVEL BORROW at _____ CY				
151.01	140	GRAVEL BORROW - TYPE C at _____ CY				
151.1	10	GRAVEL BORROW FOR BRIDGE FOUNDATION at _____ CY				
151.2	580	GRAVEL BORROW FOR BACKFILLING STRUCTURES AND PIPES at _____ CY				
153.	10	CONTROLLED DENSITY FILL - EXCAVATABLE at _____ CY				
156.	50	CRUSHED STONE at _____ TON				
170.	4,700	FINE GRADING AND COMPACTING at _____ SY				

## Supplemental Form for General Bid - Base Bid

Item Number	Quantity	Item with Unit Bid Price Written in Words	Unit Price		Amount	
			Dollars	Cents	Dollars	Cents
201.	9	CATCH BASIN at _____ EA				
202.	1	MANHOLE at _____ EA				
203.	1	SPECIAL MANHOLE at _____ EA				
220.	11	DRAINAGE STRUCTURE ADJUSTED at _____ EA				
221.	4	FRAME AND COVER at _____ EA				
222.1	5	FRAME AND GRATE - MASSDOT CASCADE TYPE at _____ EA				
223.2	2	FRAME AND GRATE (OR COVER) REMOVED AND DISCARDED at _____ EA				

## Supplemental Form for General Bid - Base Bid

Item Number	Quantity	Item with Unit Bid Price Written in Words	Unit Price		Amount	
			Dollars	Cents	Dollars	Cents
224.12	5	12 INCH HOOD at _____ EA				
235.12	3	12 INCH DRAINAGE PIPE FLARED END - OPTION at _____ EA				
244.12	320	12 INCH REINFORCED CONCRETE PIPE CLASS V at _____ FT				
258.	60	STONE FOR PIPE ENDS at _____ SY				
280.	10	HOT MIX ASPHALT WATERWAY at _____ SY				
302.06	40	6 INCH DUCTILE IRON WATER PIPE (RUBBER GASKET) at _____ FT				
302.12	650	12 INCH DUCTILE IRON WATER PIPE (RUBBER GASKET) at _____ FT				

## Supplemental Form for General Bid - Base Bid

Item Number	Quantity	Item with Unit Bid Price Written in Words	Unit Price		Amount	
			Dollars	Cents	Dollars	Cents
303.12	130	12 INCH DUCTILE IRON WATER PIPE (MECHANICAL JOINT) at _____ FT				
309.	2,500	DUCTILE IRON FITTINGS FOR WATER PIPE at _____ LB				
325.08	20	8 INCH STEEL PIPE CASING FOR WATER PIPE at _____ FT				
325.24	20	24 INCH STEEL PIPE CASING FOR WATER PIPE at _____ FT				
350.06	2	6 INCH GATE AND GATE BOX at _____ EA				
350.12	5	12 INCH GATE AND GATE BOX at _____ EA				
358.	2	GATE BOX ADJUSTED at _____ EA				

## Supplemental Form for General Bid - Base Bid

Item Number	Quantity	Item with Unit Bid Price Written in Words	Unit Price		Amount	
			Dollars	Cents	Dollars	Cents
376.	2	HYDRANT at _____ EA				
376.2	1	HYDRANT - REMOVED AND RESET at _____ EA				
402.	500	DENSE GRADED CRUSHED STONE FOR SUB-BASE at _____ CY				
403.	2,600	RECLAIMED PAVEMENT FOR BASE COURSE AND/OR SUB-BASE at _____ SY				
415.1	2,100	PAVEMENT STANDARD MILLING at _____ SY				
431.	210	HIGH EARLY STRENGTH CEMENT CONCRETE BASE COURSE at _____ SY				
440.	26,800	CALCIUM CHLORIDE FOR ROADWAY DUST CONTROL at _____ LB				

## Supplemental Form for General Bid - Base Bid

Item Number	Quantity	Item with Unit Bid Price Written in Words	Unit Price		Amount	
			Dollars	Cents	Dollars	Cents
443.	10	WATER FOR ROADWAY DUST CONTROL at _____ MGL				
450.23	720	SUPERPAVE SURFACE COURSE - 12.5 (SSC - 12.5) at _____ TON				
450.31	510	SUPERPAVE INTERMEDIATE COURSE - 12.5 (SIC - 12.5) at _____ TON				
450.32	970	SUPERPAVE INTERMEDIATE COURSE - 19.0 (SIC - 19.0) at _____ TON				
451.	20	HMA FOR PATCHING at _____ TON				
452.	700	ASPHALT EMULSION FOR TACK COAT at _____ GAL				
453.	3,400	HMA JOINT SEALANT at _____ FT				

## Supplemental Form for General Bid - Base Bid

Item Number	Quantity	Item with Unit Bid Price Written in Words	Unit Price		Amount	
			Dollars	Cents	Dollars	Cents
470.1	1,200	HOT MIX ASPHALT BERM at _____ FT				
472.	75	TEMPORARY ASPHALT PATCHING at _____ TON				
504.2	2	GRANITE CURB TYPE VA4 - SPLAYED END at _____ EA				
506.	930	GRANITE CURB TYPE VB - STRAIGHT at _____ FT				
506.1	140	GRANITE CURB TYPE VB - CURVED at _____ FT				
509.	60	GRANITE TRANSITION CURB FOR PEDESTRIAN CURB RAMPS - STRAIGHT at _____ FT				
620.12	350	GUARDRAIL, TL-2 (SINGLE FACED) at _____ FT				

## Supplemental Form for General Bid - Base Bid

Item Number	Quantity	Item with Unit Bid Price Written in Words	Unit Price		Amount	
			Dollars	Cents	Dollars	Cents
620.13	150	GUARDRAIL, TL-3 (SINGLE FACED) at _____ FT				
620.33	70	GUARDRAIL - CURVED, TL-3 (SINGLE FACED) at _____ FT				
627.1	3	TRAILING ANCHORAGE at _____ EA				
627.82	1	GUARDRAIL TANGENT END TREATMENT, TL-2 at _____ EA				
627.83	1	GUARDRAIL TANGENT END TREATMENT, TL-3 at _____ EA				
627.92	2	GUARDRAIL FLARED END TREATMENT, TL-2 at _____ EA				
630.2	80	GUARDRAIL REMOVED AND DISCARDED at _____ FT				



## Supplemental Form for General Bid - Base Bid

Item Number	Quantity	Item with Unit Bid Price Written in Words	Unit Price		Amount	
			Dollars	Cents	Dollars	Cents
697.1	11	SILT SACK at _____ EA				
702.	20	HOT MIX ASPHALT SIDEWALK OR DRIVEWAY at _____ TON				
748.	1	MOBILIZATION at _____ LS				
751.	670	LOAM BORROW at _____ CY				
755.35	1	INLAND WETLAND REPLICATION AREA at _____ LS				
756.	1	NPDES STORMWATER POLLUTION PREVENTION PLAN at _____ LS				
757.1	1	SUBSURFACE GRAVEL WETLAND #1 at _____ LS				

## Supplemental Form for General Bid - Base Bid

Item Number	Quantity	Item with Unit Bid Price Written in Words	Unit Price		Amount	
			Dollars	Cents	Dollars	Cents
757.2	1	SUBSURFACE GRAVEL WETLAND #2 at _____ LS				
765.	4,800	SEEDING at _____ SY				
767.121	3,200	SEDIMENT CONTROL BARRIER at _____ FT				
769.	720	PAVEMENT MILLING MULCH UNDER GUARD RAIL at _____ FT				
772.325	3	BALSAM FIR at _____ EA				
772.336	3	CEDAR - RED 5-6 FEET at _____ EA				
804.3	350	3 INCH ELECTRICAL CONDUIT TYPE NM - PLASTIC -(UL) at _____ FT				

## Supplemental Form for General Bid - Base Bid

Item Number	Quantity	Item with Unit Bid Price Written in Words	Unit Price		Amount	
			Dollars	Cents	Dollars	Cents
815.1	1	TRAFFIC CONTROL SIGNAL LOCATION NO. 1 at _____ LS				
832.	60	WARNING-REGULATORY AND ROUTE MARKER - ALUM. PANEL (TYPE A) at _____ SF				
847.1	10	SIGN SUP (N/GUIDE)+RTE MKR W/1 BRKWAY POST ASSEMBLY - STEEL at _____ EA				
851.1	90	TRAFFIC CONES FOR TRAFFIC MANAGEMENT at _____ DAY				
852.	570	SAFETY SIGNING FOR TRAFFIC MANAGEMENT at _____ SF				
853.1	5	PORTABLE BREAKAWAY BARRICADE TYPE III at _____ EA				
853.2	250	TEMPORARY BARRIER at _____ FT				

## Supplemental Form for General Bid - Base Bid

Item Number	Quantity	Item with Unit Bid Price Written in Words	Unit Price		Amount	
			Dollars	Cents	Dollars	Cents
853.21	250	TEMPORARY BARRIER REMOVED AND RESET at _____ FT				
853.52	2	TEMPORARY IMPACT ATTENUATOR UNIDIRECTIONAL, NON-REDIRECTIVE (TL-2) at _____ EA				
853.8	65	TEMPORARY ILLUMINATION FOR WORK ZONE at _____ DAY				
854.014	7,400	TEMPORARY PAVING MARKINGS - 4 INCH (PAINTED) at _____ FT				
854.034	3,700	TEMPORARY PAVING MARKINGS - 4 INCH (TAPE) at _____ FT				
856.12	75	PORTABLE CHANGEABLE MESSAGE SIGN at _____ DAY				
859.	1,300	REFLECTORIZED DRUM at _____ DAY				

## Supplemental Form for General Bid - Base Bid

Item Number	Quantity	Item with Unit Bid Price Written in Words	Unit Price		Amount	
			Dollars	Cents	Dollars	Cents
859.1	130	REFLECTORIZED DRUM WITH SEQUENTIAL FLASHING WARNING LIGHTS at _____ DAY				
864.04	350	PAVEMENT ARROWS AND LEGENDS REFL. WHITE (THERMOPLASTIC) at _____ SF				
866.104	2,800	4 INCH REFLECTORIZED WHITE LINE (THERMOPLASTIC) at _____ FT				
866.112	100	12 INCH REFLECTORIZED WHITE LINE (THERMOPLASTIC) at _____ FT				
867.104	3,700	4 INCH REFLECTORIZED YELLOW LINE (THERMOPLASTIC) at _____ FT				
867.112	200	12 INCH REFLECTORIZED YELLOW LINE (THERMOPLASTIC) at _____ FT				
874.	2	STREET NAME SIGN at _____ EA				

## Supplemental Form for General Bid - Base Bid

Item Number	Quantity	Item with Unit Bid Price Written in Words	Unit Price		Amount	
			Dollars	Cents	Dollars	Cents
874.4	1	TRAFFIC SIGN REMOVED AND STACKED at _____ EA				
904.	20	4000 PSI, 3/4 IN., 610 CEMENT CONCRETE at _____ CY				
986.	50	MODIFIED ROCKFILL at _____ TON				
991.01	1	CONTROL OF WATER at _____ LS				
995.011	1	CULVERT STRUCTURE at _____ LS				
999.	1	CONSTRUCTION STAKING at _____ LS				
999.1	1	POLICE SERVICES at <u>Fifty-Six Thousand Dollars</u> ALL	56,000	00	56,000	00

Supplemental Form for General Bid - Base Bid

Item Number	Quantity	Item with Unit Bid Price Written in Words	Unit Price		Amount	
			Dollars	Cents	Dollars	Cents
999.2	1	AS-BUILT PLANS at <hr/> LS				

TOTAL BASE BID: \_\_\_\_\_

(Written in Words):

\_\_\_\_\_

**ITEM 772.325**

**~~ITEM 772.335~~**

**BALSAM FIR**

**EACH**

The work under this item shall conform to the applicable requirements of Section 771 PLANTING TREES, SHRUBS AND GROUNDCOVER, of the Standard Specifications, latest edition, except as amended and supplemented as indicated on the drawings and as specified below.

The balsam fir trees selected shall be 5 to 6 feet in height when installed.

Item 772.335 will be measured and paid for at the contract unit price per each balsam fir which price shall include all labor, equipment, materials, maintenance, dismantling, removal, restoration of soil, and all incidental costs required to complete the work.



**ITEM 991.01****CONTROL OF WATER****LUMP SUM**

The work under this Item shall conform to the relevant provisions of Section 140 of the Standard Specifications and the following:

The work shall include the furnishing, installation, operation, maintenance, and removal of the water control systems required for the construction of the proposed culvert and water line installation at Montello Street. The Water Control Systems shall be capable of both containing flow through the work area and lowering the water table to an elevation below the bottom of the foundation, as determined by the Engineer and as shown on the Plans.

The Systems shall divert the water flow through the construction area. Any stream diversion should at a minimum be sized to allow flow rates equal to that of the existing flow to ensure against a backup of water on the upstream side. Sandbags or other means, as approved by the Engineer, shall be used both upstream and downstream to contain the flows within the culvert and stream.

The Contractor shall install and maintain temporary measures for the containment of the stream flow, the collection of siltation and debris due to the construction activities and the maintenance of drainage through the drainage system upstream and downstream during the construction period. Temporary control measures shall include, but are not limited to, the use of sandbags, stone dikes and dams, sediment basins, crushed stone, paved or unpaved waterways and other devices or methods which meet the requirements of this section and the approval of the Engineer.

The use of earthen berms in the stream is prohibited.

~~The Contractor shall confirm the flow rate of the stream and the surface elevation in the field prior to commencing activities.~~ The Contractor shall adjust the control of water to accommodate field measure conditions.

The Contractor shall submit a water control plan defining and detailing the methods for control of water and type of installation to be used to the Engineer for approval prior to construction. All plans, procedures and calculations shall be stamped by a Professional Engineer registered in the Commonwealth of Massachusetts. The submitted construction plan must include a Contingency Plan to describe operations protocols in the event of a flow event that exceeds the diversion/bypass design flow rate.

The Contractor shall be responsible for the removal and legal disposal of all temporary structures or devices to an off-site location. The Contractor is responsible for regrading of all disturbed areas, and any other incidental work required to perform this work as directed by the Engineer.

**Method of Measurement and Basis of Payment**

Payment for the work to be done under these items shall be at the contract lump sum bid price for Item 991.01 Control of Water, which shall include all labor, materials, equipment, sandbag dam or other means of support of excavation, utility adjustments, temporary diversion pipes,

### **ITEM 995.01** (Continued)

The Contractor shall submit shop drawings to the Engineer for approval including, but not limited to, layout plans, bend diagrams, and typical sections. No materials shall be fabricated or shipped prior to approval of the shop drawings by the Engineer.

#### Geotextile Fabric for Separation

The work to be done under this heading shall consist of wrapping a geotextile fabric around all culvert joints, as shown on the plans and as directed by the Engineer.

Geotextile fabric shall be in conformance with M9.50.0 of the Standard Specifications.

#### ~~Membrane Waterproofing~~

~~The work under this item shall conform to the relevant provisions of Section 965 of the Standard Specifications.~~

#### Damp-Proofing

The work under this heading shall conform to the relevant provisions of Section 970 of the Standard Specifications. Bituminous damp-proofing shall be installed to the limits shown on the plans and as directed by the Engineer.

#### Precast Concrete Arch Culvert

The work under this heading shall conform to the relevant provisions of Section 901 of the Standard Specifications and the following:

The work under this heading shall include design, fabrication, and installation of the precast arch culvert and concrete pedestals as shown on the plans. Also included is the furnishing and installing of all steel reinforcement, neoprene gaskets, sealants, miscellaneous steel, hardware, and all other items incidental to the work.

##### A. Design

The precast arch culvert shall be designed by the Contractor, submitted to the Engineer for review and approval, and shall be in accordance with the following criteria:

- 2020 MassDOT LRFD Bridge Manual and AASHTO LRFD Bridge Design Specifications, 9<sup>th</sup> Edition. The culvert shall be designed to accommodate AASHTO HL-93 live loading.